

TRANSACTIONS
OF THE
American Society of Civil Engineers

INDEX
VOLUME LXVII
JUNE, 1910

SUBJECT INDEX, PAGE 638
AUTHOR INDEX, PAGE 641

Titles of papers are in quotation marks when given with the
author's name.

VOLUME LXVII

SUBJECT INDEX

AGREEMENTS.

See **CONTRACTS.**

BRIDGES.

"Notes on the Replacing of the Superstructure of the Harlem Ship Canal Bridge." Horace J. Howe. 1. Discussion: Lincoln Bush, Martin Gay, St. John Clarke, Theodore Belzner, and Frank W. Skinner. 23.

BUILDINGS.

"Agreements for Building Contracts." William B. Bamford. (With Discussion.) 438.

"Underpinning the Cambridge Building, New York City." T. Kennard Thomson. (With Discussion.) 553.

CANALS.

"Water Supply for the Lock Canal at Panama." Julio F. Sorzano. 61. Discussion: C. E. Grunsky, H. F. Hodges, Theodore Paschke, Allen Hazen, and C. M. Saville, 91.

CEMENT.

"The Effect of Alkali on Concrete." George Gray Anderson. (With Discussion.) 572.

CONCRETE.

"The Effect of Alkali on —." George Gray Anderson. 572. Discussion: R. A. Hart, Rudolph Hering, Richard L. Humphrey, George F. Morse, Richard H. Gaines, Thomas H. Means, F. E. Robertson, Philo H. Bates, E. P. Goodrich, and W. E. Belknap, 587.

CONTRACTS.

"Agreements for Building —." William B. Bamford. 438. Discussion: Norman R. McLure, William V. Polleys, Charles H. Higgins, W. G. Wilkins, William A. Boring, J. C. Wait, W. L. Bowman, Charles A. Ruggles, Oscar Lowinson, E. T. Thurston, Jr., John Mason Brown, J. A. L. Waddell, DeWitt V. Moore, and Leslie H. Allen, 478.

"Precarious Expedients in Engineering Practice." John Hawkesworth. (With Discussion.) 32.

DAMS.

Dam for improved water-works, Columbus, Ohio. 214.

DRAW-BRIDGES.

"Notes on the Replacing of the Superstructure of the Harlem Ship Canal Bridge." Horace J. Howe. (With Discussion.) 1.

ENGINEERING.

"Precarious Expedients in — Practice." John Hawkesworth. (With Discussion.) 32.

ETHICS.

"Precarious Expedients in Engineering Practice." John Hawkesworth. 32. Discussion: Eugene W. Stern, W. W. Crosby, J. S. Branne, Andrews Allen, Guy B. Waite, and J. H. Gandolfo, 46.

EVAPORATION.

"Water Supply for the Lock Canal at Panama." Julio F. Sorzano. (With Discussion.) 61.

FILTRATION.

"The Improved Water and Sewage Works of Columbus, Ohio." John H. Gregory. (With Discussion.) 206.

FOUNDATIONS.

"Underpinning the Cambridge Building, New York City." T. Kennard Thomson. 553. Discussion: Henry Gorton Opdycke, E. A. Yates, Ogden Merrill, Oscar Lowinson, and J. C. Meem, 565.

LOCKS.

"Water Supply for the Lock Canal at Panama." Julio F. Sorzano. (With Discussion.) 61.

MEMOIRS OF DECEASED MEMBERS.

Baldwin, Henry Furlong. 621.
Buxton, Clifford. 623.
Crosby, Wilson. 625.
Emigh, John Hall. 628.
Horan, John Joseph. 634.
Humphrey, Henry Cyprian. 630.
Steele, Henry Maynadier. 631.

RAINFALL.

"Water Supply for the Lock Canal at Panama." Julio F. Sorzano. (With Discussion.) 61.

RESERVOIRS.

"Water Supply for the Lock Canal at Panama." Julio F. Sorzano. (With Discussion.) 61.

SAND-JACKS.

— used in bridge erection. 21.

SEPTIC TANKS.

"The Improved Water and Sewage Works of Columbus, Ohio." John H. Gregory. (With Discussion.) 206.

SEWAGE DISPOSAL.

"The Improved Water and Sewage Works of Columbus, Ohio." John H. Gregory. 206. Discussion: Joseph W. Ellms, Julian Griggs, C-E. A. Winslow, R. D. Scott and R. F. McDowell, Samuel Tobias Wagner, J. Corbett, W. R. Copeland, W. A. Sperry, J. W. Sale, C. P. Hoover, C. B. Hoover, A. Elliott Kimberly, Samuel Rideal, Alexander Potter, Gilbert Fowler, William Gavin Taylor, Allen Hazen, William B. Fuller, Emil Kuichling, Langdon Pearse, Rudolph Hering, George A. Johnson, and George W. Fuller, 324.

UNDERPINNING.

See **FOUNDATIONS.**

WATER.

"The Improved — and Sewage Works of Columbus, Ohio." John H. Gregory. 206. Discussion: Joseph W. Ellms, Julian Griggs, C-E. A. Winslow, R. D. Scott and R. F. McDowell, Samuel Tobias Wagner, J. Corbett, W. R. Copeland, W. A. Sperry, J. W. Sale, C. P. Hoover, C. B. Hoover, A. Elliott Kimberly, Samuel Rideal, Alexander Potter, Gilbert Fowler, William Gavin Taylor, Allen Hazen, William B. Fuller, Emil Kuichling, Langdon Pearse, Rudolph Hering, George A. Johnson, and George W. Fuller, 324.

WATER-WORKS.

"The Improved Water and Sewage Works of Columbus, Ohio." John H. Gregory. (With Discussion.) 206.

AUTHOR INDEX

ALLEN, ANDREWS.

Precarious engineering expedients. 52.

ALLEN, LESLIE H.

Agreements for building contracts. 520.

ANDERSON, GEORGE GRAY.

"The Effect of Alkali on Concrete." 572.

BALDWIN, HENRY FURLONG.

Memoir of. 621.

BAMFORD, WILLIAM B.

"Agreements for Building Contracts." 438.

BATES, PHILO H.

Effect of alkali on concrete. 608.

BELKNAP, W. E.

Effect of alkali on concrete. 612.

BELZNER, THEODORE.

Harlem Ship Canal Bridge. 27.

BORING, WILLIAM A.

Agreements for building contracts. 486.

BOWMAN, W. L.

Agreements for building contracts. 491.

BRANNE, J. S.

Precarious engineering expedients. 50.

BROWN, JOHN MASON.

Agreements for building contracts. 502.

BUSH, LINCOLN.

Harlem Ship Canal Bridge. 23.

BUXTON, CLIFFORD.

Memoir of. 623.

CLARKE, ST. JOHN.

Harlem Ship Canal Bridge. 26.

COPELAND, W. R.

Water and sewage works, Columbus, Ohio. 337.

CORBETT, J.

Water and sewage works, Columbus, Ohio. 335.

CROSBY, W. W.

Precarious engineering expedients. 48.

- CROSBY, WILSON.**
Memoir of. 625.
- ELLS, JOSEPH W.**
Water and sewage works, Columbus, Ohio. 324
- EMIGH, JOHN HALL.**
Memoir of. 628.
- FOWLER, GILBERT.**
Water and sewage works, Columbus, Ohio. 394.
- FULLER, GEORGE W.**
Water and sewage works, Columbus, Ohio. 419.
- FULLER, WILLIAM B.**
Water and sewage works, Columbus, Ohio. 400.
- GAINES, RICHARD H.**
Effect of alkali on concrete. 602.
- GANDOLFO, J. H.**
Precarious engineering expedients. 57.
- GAY, MARTIN.**
Harlem Ship Canal Bridge. 24.
- GOODRICH, E. P.**
Effect of alkali on concrete. 611.
- GREGORY, JOHN H.**
"The Improved Water and Sewage Works of Columbus, Ohio." 206.
- GRIGGS, JULIAN.**
Water and sewage works, Columbus, Ohio. 325.
- GRUNSKY, C. E.**
Water supply for Panama Canal. 91.
- HAWKESWORTH, JOHN.**
"Precarious Expedients in Engineering Practice." 32.
- HAZEN, ALLEN.**
Water and sewage works, Columbus, Ohio. 399.
Water supply for Panama Canal. 108.
- HART, R. A.**
Effect of alkali on concrete. 587.
- HERING, RUDOLPH.**
Effect of alkali on concrete. 592.
Water and sewage works, Columbus, Ohio. 407.
- HIGGINS, CHARLES H.**
Agreements for building contracts. 481.

HODGES, H. F.

Water supply for Panama Canal. 96.

HOOVER, C. B.

Water and sewage works, Columbus, Ohio. 359.

HOOVER, C. P.

Water and sewage works, Columbus, Ohio. 354.

HORAN, JOHN JOSEPH.

Memoir of. 634.

HOWE, HORACE J.

"Notes on the Replacing of the Superstructure of the Harlem Ship Canal Bridge." 1.

HUMPHREY, HENRY CYPRIAN.

Memoir of. 630.

HUMPHREY, RICHARD L.

Effect of alkali on concrete. 598.

JOHNSON, GEORGE A.

Water and sewage works, Columbus, Ohio. 415.

KIMBERLY, A. ELLIOTT.

Water and sewage works, Columbus, Ohio. 379.

KUICHLING, E.

Water and sewage works, Columbus, Ohio. 402.

LOWINSON, OSCAR.

Agreements for building contracts. 496.

Underpinning buildings. 568.

McDOWELL, R. F.

Water and sewage works, Columbus, Ohio. 330.

McLURE, NORMAN R.

Agreements for building contracts. 478.

MEANS, THOMAS H.

Effect of alkali on concrete. 606.

MEEM, J. C.

Underpinning buildings. 569.

MERRILL, OGDEN.

Underpinning buildings. 567.

MOORE, DeWITT V.

Agreements for building contracts. 515.

MORSE, GEORGE F.

Effect of alkali on concrete. 601.

OPDYCKE, HENRY GORTON.

Underpinning buildings. 565.

PASCHKE, THEODORE.

Water supply for Panama Canal. 106.

PEARSE, LANGDON.

Water and sewage works, Columbus, Ohio. 406.

POLLEYS, WILLIAM V.

Agreements for building contracts. 479.

POTTER, ALEXANDER.

Water and sewage works, Columbus, Ohio. 390.

RIDEAL, SAMUEL.

Water and sewage works, Columbus, Ohio. 388.

ROBERTSON, F. E.

Effect of alkali on concrete. 608.

RUGGLES, CHARLES A.

Agreements for building contracts. 493.

SALE, J. W.

Water and sewage works, Columbus, Ohio. 345.

SAVILLE, C. M.

Water supply for Panama Canal. 112.

SCOTT, R. D.

Water and sewage works, Columbus, Ohio. 330.

SKINNER, FRANK W.

Harlem Ship Canal Bridge. 28.

SORZANO, JULIO F.

"Water Supply for the Lock Canal at Panama." 61.

SPERRY, W. A.

Water and sewage works, Columbus, Ohio. 342.

STEELE, HENRY MAYNADIER.

Memoir of. 631.

STERN, EUGENE W.

Precarious engineering expedients. 46.

TAYLOR, WILLIAM GAVIN.

Water and sewage works, Columbus, Ohio. 397.

THOMSON, T. KENNARD.

"Underpinning the Cambridge Building, New York City." 553.

THURSTON, E. T., JR.

Agreements for building contracts. 497.

WADDELL, J. A. L.

Agreements for building contracts. 510.

WAGNER, SAMUEL TOBIAS.

Water and sewage works, Columbus, Ohio. 334.

WAIT, J. C.

Agreements for building contracts. 488.

WAITE, GUY B.

Precarious engineering expedients. 55.

WILKINS, W. G.

Agreements for building contracts. 483.

WINSLOW, C-E. A.

Water and sewage works, Columbus, Ohio. 328.

YATES, E. A.

Underpinning buildings. 566.